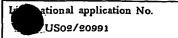
INTERNATIONAL SEARCH REPORT



A: CLASSIFICATION OF SUBJECT MATTER		
IPC(7) :G01M 7/00 US CL :73/662, 583, 802		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
U.S. : 75/662, 583, 802, 669, 579, 760, 786, 788		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Extra Sheet.		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category* Citation of document, with indication, wh	ere appropriate, of the relevant passages Relevant to claim No.	
X 3,664,179 A (DANKO et al.) 23 document.	May 1972 (23.05.1972), entire 1-21	
A US 4,519,053 A (BEDENBER (21.05.1985), entire document.	NDER et al.) 21 May 1985 1-21	
A US 5,425,276 A (GRAM et al.) 2 document.	0 June 1995 (20.06.1995), entire 1-21	
A,E US 6,441,571 B1 (IBUKI et al. entire document.) 27 August 2002 (27.08.2002), 1-21	
Further documents are listed in the continuation of	Box C. See patent family annex.	
Special categories of cited documents:	"In later document published after the international filing date or priority	
"A" document defining the general state of the art which is not consi	date and not in conflict with the application but sited to understand	
to be of particular relevance "E" earlier document published on or after the international filing	document of particular relevance; the claimed invention cannot be	
"L" document which may throw doubts on priority claim(s) or wh cited to establish the publication date of another citation or	when the document is taken alone	
"O" document referring to an oral disclosure, use, exhibition or means	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	
"P" document published prior to the international filing date but than the priority date claimed		
Date of the actual completion of the international search 26 SEPTEMBER 2002	Date of mailing of the international search report 06 DEC 2002	
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Weekington D.C. 20231	Authorized officer Sharin J. Higher RICHARD A. MOLLER	
Washington, D.C. 20231 Facsimile No. (703) 305-3230	Telephone No. (703) 308-6715	

B. FIELDS SEARCHED Electronic data bases consulted (Name of data base and where practicable terms used):		
EAST search terms: load, force, mass, actuator, control, reciprocating, cyclical, natural, resonance, resonant, transverse, transversal, lead, lead-lag.		